

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A substrate bonding apparatus for manufacturing a liquid crystal display (LCD) device, comprising:
 - a base frame;
 - a lower chamber unit mounted to the base frame;
 - an upper chamber unit joinable to the lower chamber unit, wherein the upper and lower chambers define an interior space capable of being sealed and evacuated to apply a vacuum pressure;
 - an upper stage fixed to the upper chamber unit for securing a first substrate;
 - a lower stage fixed to the lower chamber unit for securing a second substrate;
 - at least one first elastic member arranged between the upper stage and the upper chamber unit; and
 - at least one second elastic member arranged between the lower stage and the lower chamber unit,
wherein at least one of the upper and lower stages includes: a fixing plate coupled to a corresponding one of the upper and lower chamber units; and a securing plate for securing a corresponding one of the first and second substrates, and wherein at least one of the first and second elastic members is arranged between the fixing plate and the securing plate,
and wherein the at least one of the first and second elastic members arranged between the fixing plate and the securing plate include a first restorative elastic member and a second restorative member, the first restorative elastic member nearer a center region of the fixing plate than the second first restorative elastic member, and the first restorative elastic member having a restorative force constant greater than a restorative force constant of the second restorative elastic member whereby the first restorative elastic member and the second restorative elastic member apply restorative forces to the fixing plate and securing plate to oppose deformation of the fixing plate and securing plate due to deforming forces generated by convex bending of the

corresponding one of the upper and lower chamber units due to application of the vacuum pressure and the weight of the upper and lower stages.

2. (Previously Presented) The substrate bonding apparatus according to claim 1, wherein the upper and lower chamber units are convexly bendable within the substrate bonding apparatus; and

wherein the deforming forces generated upon application of the vacuum pressure have differing values corresponding to locations on the fixing plate, and wherein the at least one of the first and second elastic members includes a plurality of restoring elastic members disposed at positions on the fixing plate that exert a restorative force corresponding to the deforming force at the corresponding position on the fixing plate of each restorative elastic member.

3. (Previously Presented) The substrate bonding apparatus according to claim 1, wherein the first and second elastic members include a coil spring.

4. (Previously Presented) The substrate bonding apparatus according to claim 1, wherein the first and second elastic members include an initially-coned disk spring.

5. (Previously Presented) The substrate bonding apparatus according to claim 1, wherein the first and second elastic members include a plate spring.

Claims 6-13 (Canceled)

14. (Previously Presented) The substrate bonding apparatus according to claim 1, wherein the securing plate includes a plurality of electrostatic chucks.

15. (Previously Presented) The substrate bonding apparatus according to claim 14, wherein the first and second elastic members are arranged in correspondence with positions of the plurality of electrostatic chucks.

16. (Previously Presented) The substrate bonding apparatus according to claim 1, wherein the securing plate includes stainless steel.

17. (Previously Presented) The substrate bonding apparatus according to claim 1, wherein the securing plate includes an aluminum alloy.

18. (Previously Presented) The substrate bonding apparatus according to claim 1, wherein the securing plate is at least about 40mm thick.

19. (Canceled)

20. (Canceled)

21. (Withdrawn) A method of fabricating a display, comprising:
providing an upper stage coupled to an upper chamber unit via at least one elastic member;

providing a lower stage coupled to a lower chamber unit via at least one elastic member;

loading a first substrate onto the upper stage;

loading a second substrate onto the lower stage;

joining the upper and lower chamber units to create an interior space surrounding the first and second substrates;

evacuating the interior space, wherein an interior surface of the upper and lower chamber units is convexly bendable with respect to the first and second substrates while a surface of the upper stage opposing a surface of the lower stage remains substantially parallel to the surface of the lower stage; and

bonding the first and second substrates together within the interior space.

22. (Withdrawn) The method of fabricating a display according to claim 21, wherein the bonding includes bonding the first and second substrates in the evacuated interior space.

23. (Currently Amended) A substrate bonding apparatus for manufacturing a liquid crystal display (LCD) device, comprising:

a base frame;
a lower chamber unit mounted to the base frame;
an upper chamber unit joinable to the lower chamber unit, wherein the upper and lower chambers define an interior space capable of being sealed and evacuated to apply a vacuum pressure;
an upper stage fixed to the upper chamber unit for securing a first substrate; and
a lower stage fixed to the lower chamber unit for securing a second substrate;
~~at least one first elastic member arranged between the upper stage and the upper chamber unit; and~~
~~at least one second elastic member arranged between the lower stage and the lower chamber unit,~~

wherein at least one of the upper and lower stages includes: a fixing plate coupled to a corresponding one of the upper and lower chamber units; [[and]] a securing plate for securing a corresponding one of the first and second substrates [[,]]; at least one first elastic member arranged between the corresponding one of the upper and lower chamber units and the fixing plate; and at least one second elastic member arranged between the fixing plate and the securing plate, and wherein at least one of the first and second elastic members is arranged between the fixing plate and the securing plate and wherein the securing plate includes a plurality of holes for transmitting a suction force to secure a substrate,

and wherein the ~~at least one of the first and second elastic members arranged between the fixing plate and the securing plate~~ apply restorative forces to the fixing plate and securing plate to oppose deformation of the fixing plate and securing plate due to deforming forces generated by convex bending of the corresponding one of the upper and lower chamber units due to application of the vacuum pressure and the weight of the upper and lower stages.